

Amendment to the Claims

Please amend the claims as follows:

1. (Currently amended): A method of purifying a protein of interest from its fusion analog, said method comprising:

- a. Obtaining a protein solution comprising the protein of interest and its fusion analog;
- b. Adjusting the pH and/or ionic strength of the protein solution with an appropriate buffer for the Hydrophobic Charge Induction Chromatograph (HCIC) resin used in step c;
- c. Contacting the protein solution with an HCIC resin column for a time sufficient to allow binding of the protein of interest and its fusion analog to the resin;
- d. Washing the HCIC resin with an appropriate buffer; and
- e. Eluting the protein of interest from the HCIC resin by a pH gradient; wherein said protein of interest is substantially free of its fusion analog.

2. (Original): The method of claim 1 wherein the protein solution is a fermentation broth.

3. (Currently amended): The method of ~~claim 1~~ claim 2 wherein the broth is clarified.

(Original): The method of claim 1 wherein the protein of interest is secreted.

5. (Original): The method of claim 1 wherein the protein of interest is selected from the group consisting of an enzyme, a peptide concatamer, a hormone, a growth factor, a receptor, vaccine, an immunoglobulin and fragments of any of the foregoing.

6. (Original): The method of claim 1 wherein the protein of interest is an immunoglobulin or fragment thereof.

7. (Original): The method of claim 6 wherein the immunoglobulin is a monoclonal antibody.
8. (Original): The method of claim 6 wherein the immunoglobulin is an F(ab')₂ fragment.
9. (Original): The method of claim 6 wherein the immunoglobulin is a Fab' fragment.
10. (Original): The method of claim 1 wherein the protein of interest is an enzyme.
11. (Original): The method of claim 1 wherein the fusion analog thereof comprises at least one glucoamylase protein covalently linked to the amino terminus of said protein of interest.
12. (Original): The method of claim 11 wherein there may be between one and four glucoamylase proteins attached to said immunoglobulin.
13. (Original): The method of claim 1 wherein the protein of interest is a fragment of an immunoglobulin.
14. (Original): The method of claim 1 wherein the pH gradient begins at a pH of about 8 and ends at a pH of about 2.5.
15. (Original): The method of claim 1 wherein the pH gradient begins at a pH of about 2.5 and ends at a pH of about 8.
16. (Original): The method of claim 1 wherein the pH gradient comprises a step pH gradient.

17. (Original): The method of claim 16 wherein the step pH gradient comprises between two and six steps.
18. (Original): The method of claim 1 further comprising size exclusion chromatography.
19. (Original): The method of claim 1 further comprising protein A chromatography.
20. (Original): The method of claim 1 in which binding and elution are done in a batch process.
21. (Original): The method of claim 1 in which the HCIC resin is in a packed column.
22. (Original): The method of claim 18 in which the HCIC resin is in an axial flow column.
23. (Original): The method of claim 18 in which the HCIC resin is in a radial flow column.
24. (Original): The method of claim 1 in which the HCIC resin is in an expanded bed column.
25. (Currently amended): A method of purifying an immunoglobulin, said method comprising:
 - a. Obtaining a protein solution comprising the immunoglobulin;
 - b. Adjusting the pH and/or ionic strength of the protein solution with an appropriate buffer for the Hydrophobic Charge Induction Chromatograph (HCIC) resin used in step c;
 - c. Contacting the protein solution with an HCIC resin for a time sufficient to allow binding of the immunoglobulin to the resin;
 - d. Washing the HCIC resin ~~of~~ with an appropriate buffer; and

- e. Eluting the immunoglobulin from the HCIC resin by a pH gradient, wherein said pH gradient is incrementally decreased and the immunoglobulin is substantially free of other proteins.

26. (New): The method of claim 25 wherein, the pH gradient is incrementally decreased from pH 8.2 to pH 2.5.

27. (New): The method of claim 26 wherein the pH gradient is incrementally decreased in 4 steps.

28. (New): The method of claim 25, wherein the immunoglobulin is a monoclonal antibody.

29. (New): The method of claim 25, wherein the immunoglobulin is a F(ab')₂ fragment.

30. (New): The method of claim 25, wherein the immunoglobulin is a Fab' fragment.